



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,333	03/08/2001	Patrick Defay	204251US2PCT	5071
22850	7590	08/11/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			JELINEK, BRIAN J	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	

2615

DATE MAILED: 08/11/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,333

Applicant(s)

DEFAY, PATRICK

Examiner

Brian Jelinek

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

vSpecification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed

5

Claim Objections

Claims 12, 14, and 20 are objected to because of the following informalities: there is insufficient antecedent basis for the limitation in the claim.

Claim 12 recites the limitation "the retinal persistence" in line 3 of the claim.

Claims 14 and 20 recite the limitation "the processing means" in line 3 of claim 14, and
10 lines 2-3 of claim 20.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
15 obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the
20 manner in which the invention was made.

Claims 11, 13, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over
Ohshima et al. (U.S. Pat. No. 4,812, 911), and further in view of Bauer, II (U.S. Pat. No.
25 3,692,394).

Regarding claim 11, Ohshima et al. teaches a camera having an optical axis (Fig. 1) and comprising: a shutter (Fig. 1, element 5); an objective focal plane (Fig. 1; col. 3, lines 12-19); an adapter (Fig. 1, element 2); a spectral splitter of light into three components (Fig. 1, element 8); three photoelectric-effect sensors, each light component being focused on a different sensor (Fig. 1, elements 8, 9A, 9B, and 9C; col. 2, lines 50-58); an object focal plane being common to all the light components, and an adapter matching the objective focal plane with the focal planes of the sensors (Fig. 1, elements 8, 9A, 9B, and 9C; col. 3, lines 12-19); an objective support that is designed to receive an objective and is located upline from a shutter (Fig. 1, elements 10, 1, 5); the optical paths between the input of the spectral splitter and the sensors are different for the three light components (Fig. 1, elements 8, 9A, 9B, and 9C; col. 2, lines 50-58); and a shutter, letting light pass through, in its open position, towards the objective focal plane (Fig. 1, element 5; Fig. 2).

Ohshima et al. does not teach an optical viewfinder, outside the field of the sensors, located off the optical axis; a shutter is reflecting, and orients the light, in its closed position, towards the viewfinder.

However, Bauer, II teaches an optical viewfinder, outside the field of the sensors, located off the optical axis (Fig. 1); a shutter is reflecting, and orients the light, in its closed position, towards the viewfinder (Fig. 1, element 16). One of ordinary skill in the art would have provided the optical viewfinder of Bauer, II in order to enable a cameraman to aim the camera in preparation for the next use of the camera (col. 1, lines 6-17). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the optical

viewfinder of Bauer, II in order to enable a cameraman to aim the camera in preparation for the next use of the camera.

Regarding claim 13, Ohshima et al. teaches a shutter comprises at least one rotational element and comprising at least one aperture part corresponding to its open position (Fig. 1, element 5; Fig. 2). Ohshima et al. does not teach a shutter comprising at least one mirror part corresponding to its closed position.

However, Bauer, II teaches a shutter comprising at least one mirror part corresponding to its closed position (Fig. 2, elements 32 and 16; col. 2, lines 4-10; Fig. 1). One of ordinary skill in the art would have provided a shutter comprising a mirror part for purpose of reflecting images to an eyepiece so that a cameraman can aim the camera. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a shutter comprising a mirror part for purpose of reflecting images to an eyepiece so that a cameraman can aim the camera.

Regarding claim 17, Bauer, II teaches a rotative element comprises at least two mirror parts and at least two aperture parts, and in that, in the vicinity of the optical axis, the mirror parts all cover a first angular sector that is substantially identical and the aperture parts all cover a second angular sector that is substantially identical (Fig. 2, elements 16, 30, 32).

Regarding claim 20, Ohshima et al. teaches splitting imaging light into different light components and then capturing each component on a different image pickup element. Neither Ohshima et al. nor Bauer, II teach a screen to view the synthesis of the different light components after their passage into a processing means. Official Notice is given that it is well known to view on a screen a photographic scene that has been synthesized from different light

Art Unit: 2615

components after being processed (e.g., viewing an LCD screen on a 3-CCD camera) so that the image taken by the camera can have a useful output.

Claims 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohshima et al. (U.S. Pat. No. 4,812, 911), in view of Bauer, II (U.S. Pat. No. 3,692,394), and further in view of Glenn (U.S. Pat. No. 4,667,226).

Regarding claim 12, Ohshima et al. teaches a camera comprises at least one mode in which the shutter periodically switches between the closed and the open positions (Fig. 1, element 5; Fig. 2; col. 3, lines 10-11 and 20-23). Neither Ohshima et al. nor Bauer, II specifically teach that the switching period is smaller than the duration of retinal persistence.

However, Glenn teaches a reflecting rotating shutter (col. 4, lines 51-60; Fig. 1, element 101) that switches at a rate of 60 times per second (16.7 milliseconds/switch) (col. 2, lines 17-25). Furthermore, Glenn teaches motion reduces perception for about 300 milliseconds (col. 3, lines 49-51). Clearly, the switching period is smaller than the duration of retinal persistence. It would have been obvious to one of ordinary skill in the art at the time of the invention to configure the switching rate of the shutter to be consistent with typical video frame rates (~30 full frames per second or ~60 interlaced frames per second) (col. 1, lines 35-40 and 65-70; col. 2, lines 8-10). As a result, one of ordinary skill in the art would have configured the switching period to be smaller than the duration of retinal persistence in providing video at standard frame rates.

Regarding claim 14, Bauer, II teaches a conventional motor control circuit provides speed control for a rotating shutter (Fig. 2, element 52; col. 2, lines 53-56). Bauer, II does not teach a

signal is proportional to the speed of rotating of the shutter or synchronizes the reading of a sensor; a position sensor for the shutter; or that the shutter can be phase-shifted.

However, Glenn teaches an automatic control device (a motor control comprising a phase locked loop circuit) for the rotative element (Fig. 1, element 190; Fig. 4, element 195) at a speed
5 of rotation proportional to the frequency of a signal given by a processing means (Fig. 1, element 190; Fig. 4, element 191) to the automatic control device (col. 5, lines 14-41), the signal being a synchronization signal for the reading of the sensors by a processing means (col. 5, lines 23-26), and in that the camera comprises a sensor of the position of the rotative element (Fig. 1, element 40), the position sensor and the automatic control device enabling the rotative element to be
10 phase-shifted with respect to the synchronization signal (col. 5, lines 47-51). One of ordinary skill in the art would have provided the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60 Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera (col. 5, lines 47-60). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention
15 to provide the motor controller, sync. timing circuitry, and position sensor to rotate the motor at a constant rate (60 Hz) and to cause the vertical retrace of the camera to occur when no light from the image is going to the camera.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohshima et al. (U.S. Pat. No. 4,812, 911), in view of Bauer, II (U.S. Pat. No. 3,692,394), in view of Glenn (U.S. Pat. No. 4,667,226), and further in view of Childs (UK Pat. App. No. GB2175172A).

Regarding claim 15, Ohshima et al. teaches three image pickup elements capture light separated by a prism (Fig. 1, element 8, 9A, 9B, and 9C). Neither Ohshima et al. nor Bauer, II nor Glenn teach the sensors are frame transfer sensors. However, Childs teaches that in a video camera with a rotating shutter, prism, and three image pickup sensors, the image sensors can be configured as a frame transfer sensor (Page 1, line 116). One of ordinary skill in the art would have configured the image pickup sensors of Ohshima et al. as the frame transfer type since the start and end of each integration interval are coincident, enabling all parts of the image sensor to be read during the period that all light is cut off from the sensor (page 1, lines 120-126). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide frame transfer sensors since the start and end of each integration interval are coincident, enabling all parts of the image sensor to be read during the period that all light is cut off from the sensor.

Claims 16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ohshima et al. (U.S. Pat. No. 4,812, 911), in view of Bauer, II (U.S. Pat. No. 3,692,394), and further in view of Okada et al. (U.S. Pat. No. 4,758,905).

Regarding claim 16, Bauer, II teaches a shutter comprises a user selectable viewfinder mode corresponding to a fixed rotative element that always has a mirror part that intersects the optical axis (col. 1, lines 6-16; col. 2, lines 59-65). Furthermore, Bauer, II teaches a combined mode corresponding to the shutter in motion (col. 2, lines 4-28). Neither Bauer, II nor Ohshima et al. teach a shutter mode comprises a user selectable video mode corresponding to a rotative element that always has an aperture part that intersects the optical axis.

However, Okada et al. teaches a shutter mode comprises a user selectable video mode corresponding to a rotative element that always has an aperture part that intersects the optical axis (col. 8, lines 26-42). One of ordinary skill in the art would have configured the shutter to remain continuously open for the purpose of capturing images continuously. As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to configure the shutter to remain open for the purpose of capturing images continuously.

Regarding claim 18, Bauer, II teaches a reflective rotating shutter. Neither Bauer, II nor Ohshima et al. specifically teach that shutter elements with the same axis of rotation are superimposed and may overlap.

However, Okada et al. teaches a rotating shutter comprises at least two rotative elements having a same axis of rotation, that are superimposed and can be offset by an angular offset such that the rotative element blades overlap at least partially (Fig. 1, elements 1, 2, 3, and 5; col. 3, line 59-col. 4, line 16).

One of ordinary skill in the art would have provided overlapping shutter blades for the purpose of enabling a user to adjust the size of each opening (col. 4, lines 14-17). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the overlapping shutter blades of Okada et al. with the reflecting rotating shutter of Bauer, II for the purpose of enabling a user to adjust the size of each opening.

Regarding claim 19, Bauer, II teaches a reflecting rotating shutter, but does not teach a shutter with overlapping elements that have user selectable offsets.

However, Okada et al. teaches that blade offset can be selected by a user (col. 3, line 59-col. 4, line 18; Fig. 1, elements 1, 2, and 3). One of ordinary skill in the art would have provided

blades with a user selectable offset for the purpose of enabling a user to adjust the size of each opening (col. 4, lines 14-17). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the blades, with a user selectable offset, of Okada et al. with the reflecting rotating shutter of Bauer, II for the purpose of enabling a user to adjust the size of each opening.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Jelinek whose telephone number is (703) 305-4724. The examiner can normally be reached on M-F 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Jelinek
8/6/2004



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600